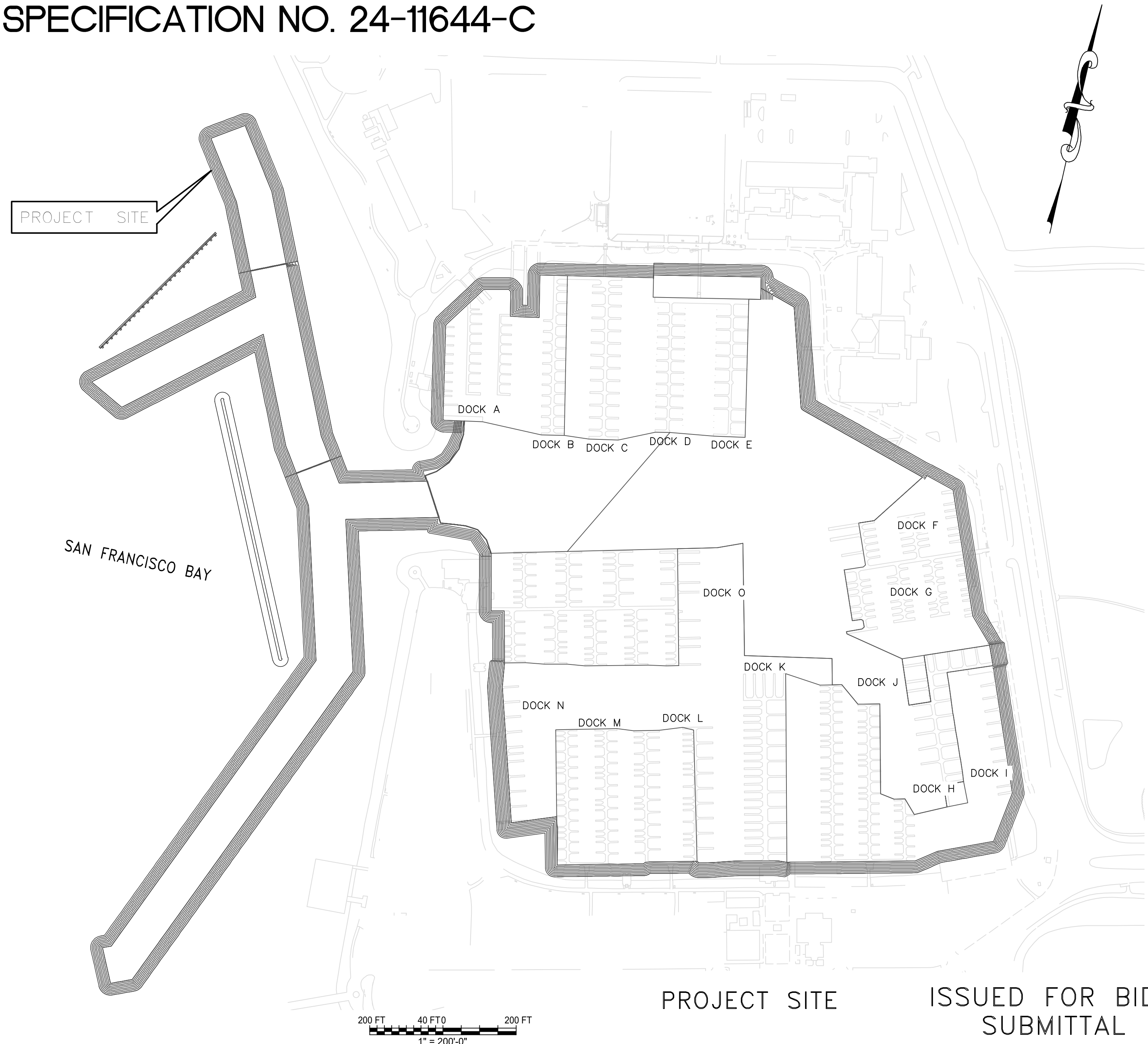


# CITY OF BERKELEY ALAMEDA COUNTY, CALIFORNIA BERKELEY MAIN CHANNEL AND MARINA HARBOR DREDGING

PROJECT PRWWF22002  
SPECIFICATION NO. 24-11644-C



LOCATION MAP



PROJECT SITE ISSUED FOR BID SUBMITTAL



PROJECT MANAGER: _____ DATE: _____	DEPICTION OF MONUMENTS: _____ DATE: _____	SUBMITTED: _____ DATE: _____	DESIGN: <u>JRVS</u> HORIZ.: <u>AS SHOWN</u>
SURVEY PARTY CHIEF: _____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: <u>NIF</u> VERT.: _____
WATERSHED REVIEW: _____ DATE: _____	APPROVED: _____ DATE: _____	CITY ENGINEER: _____	CHECK: <u>JMC</u> BOOK: _____
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES			AS BUILT: _____ DATE: <u>6/3/22</u>



BERKELEY MAIN CHANNEL AND HARBOR MARINA DREDGING  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA  
LOCATION PLAN  
AND PROJECT SITE PLAN

PLAN \_\_\_\_\_  
FILE \_\_\_\_\_  
G-001  
SHEET 1 OF 9

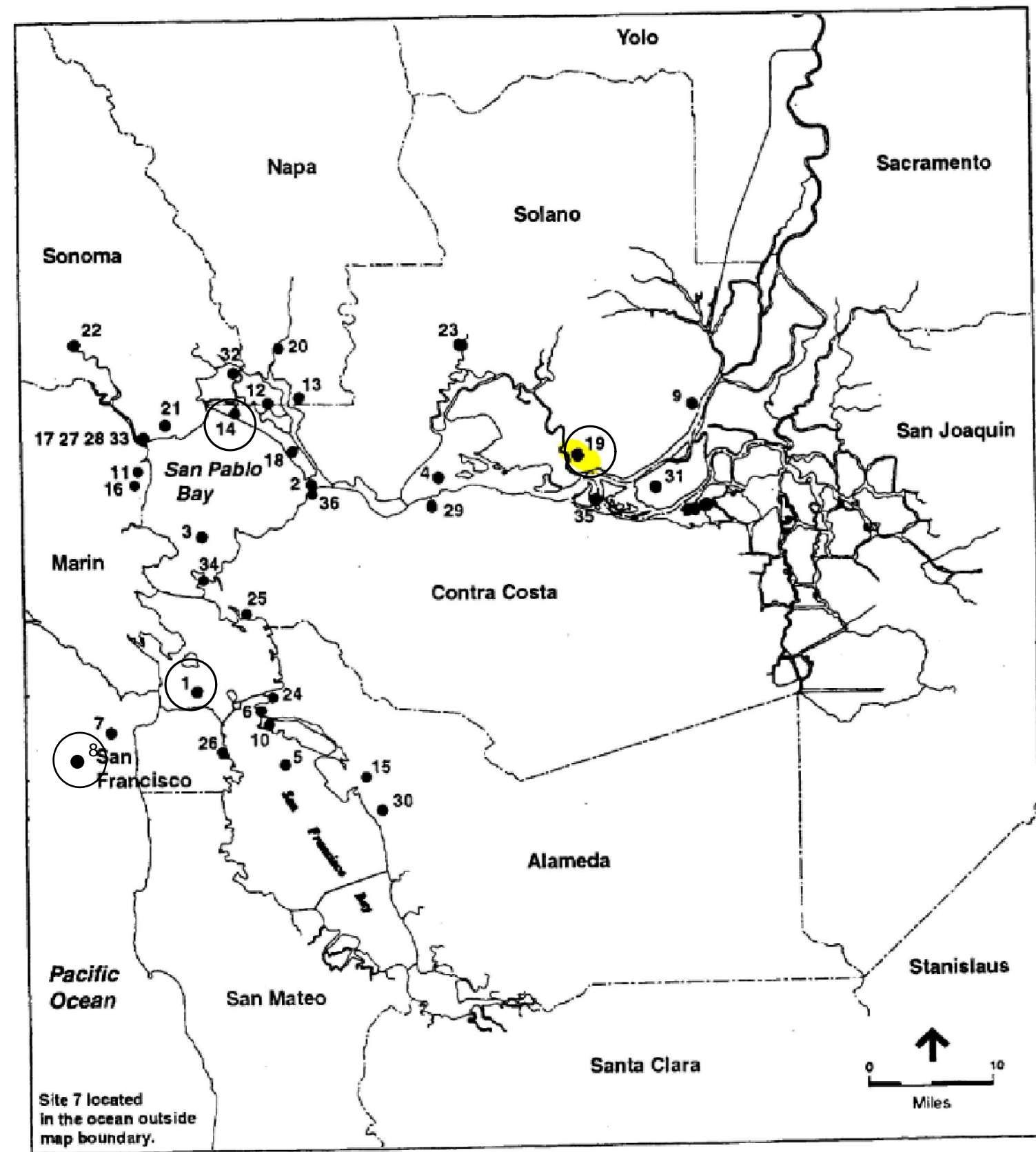
REVISION	MARK	DATE	DESCRIPTION
0		01-22-2024	ISSUED FOR BID SUBMITTAL
	JMC		APPROVAL

PLOTTED BY: NOEL FORTEZ PLOT DATE: 10/20/24 11:13 AM



# DRAWING INDEX

NO	SHEET NO.	DESCRIPTION	REVISION
GENERAL			
1	G-001	PROJECT PLAN AND PROJECT SITE LOCATION	0
2	G-002	DRAWING INDEX, GENERAL NOTES, LEGEND & ABBREVIATIONS	0
3	DR-001	DREDGE SITE PLAN	0
4	DR-002	DREDGE PLAN AND POINTS	0
5	DR-003	DREDGE NOTES, COORDINATES AND VOLUME ESTIMATES	0
6	DR-004	DREDGE SOIL SECTIONS SHEET 1 OF 4	0
7	DR-005	DREDGE SOIL SECTIONS SHEET 2 OF 4	0
8	DR-006	DREDGE SOIL SECTIONS SHEET 3 OF 4	0
9	DR-007	DREDGE SOIL SECTIONS SHEET 4 OF 4	0
HYDROGRAPHIC SURVEY REFERENCE DRAWINGS			
10	S1	PROJECT INFORMATION	-
11	S2	SOUNDINGS	-
12	S3	SOUNDINGS	-
13	S4	SOUNDINGS	-
14	S5	SOUNDINGS	-
15	S6	SOUNDINGS	-
16	S7	COLORED DEM	-
17	S8	COLORED DEM	-
18	S9	COLORED DEM	-
19	S10	COLORED DEM	-
20	S11	COLORED DEM	-



EXISTING POTENTIAL DISPOSAL SITES (SEE PERMITS FOR MORE INFORMATION)

- 1 ALCATRAZ ISLAND DISPOSAL SITE
- 8 SAN FRANCISCO DEEP OCEAN DISPOSAL SITE
- 14 CULLINAN RANCH RESTORATION PROJECT
- 19 MONTEZUMA WETLANDS RESTORATION PROJECT

**GENERAL NOTES:**

1. THE CONTRACTOR SHALL COORDINATE WITH THE CITY PROJECT MANAGER FOR THE PURPOSE OF ESTABLISHING AREAS FOR EQUIPMENT LAY DOWN AND STORAGE.
2. EXISTING AIDS TO NAVIGATION SHALL NOT BE MOVED OR MODIFIED TO COMPLETE THE WORK OF THIS CONTRACT.
3. THE CONTRACTOR SHALL COORDINATE ACCESS AND WORK FROM BARGES WITH THE CITY PROJECT MANAGER AND MARINA OPERATIONS. THE EXISTING SYSTEMS ARE TO REMAIN IN SERVICE DURING ALL WORK ACTIVITIES. ACCESS TO THE DOCKS SHALL BE MAINTAINED, UNLESS APPROVAL OF THE CITY ENGINEER IS OBTAINED.

**EXISTING FACILITIES:**

1. PLANS AND DETAILS SHOWN ON THESE DRAWINGS OF THE EXISTING CONDITIONS ARE FROM THE REFERENCE DRAWINGS PROVIDED BY THE CITY.
2. THE CONTRACTOR SHALL USE SPECIAL PRECAUTIONS FOR DREDGING IN THE AREAS OF THE EXISTING PIER, DOCKS AND SHORELINE PROTECTION ELEMENTS SO AS TO AVOID DAMAGE TO FACILITIES.
3. DREDGE VOLUMES ARE BASED ON HYDROGRAPHIC INFORMATION PROVIDED BY THE CITY. VOLUMES ARE SUBJECT TO CHANGE WHEN OFFICIAL PRE-DREDGE SURVEY IS CONDUCTED.

**SURVEYS AND MAPPING:**

1. HORIZONTAL AND VERTICAL CONTROLS  
CITY OF BERKELEY MONUMENTS ARE ESTABLISHED ON LOCAL DATUM. CHECK WITH THE CITY ENGINEER PRIOR TO USING ANY BERKELEY MONUMENTS AS A BASE STATION OR CONTROL POINT.
  - a. SURVEY DATA COLLECTED ON SEPTEMBER 12TH-15, 2022.
  - b. HORIZONTAL DATUM/PROJECTION: NAD83 (2011), SPCS CALIFORNIA ZONE 03 - U.S. SURVEY FEET.
  - A. HORIZONTAL CONTROL: ETRAC ACTUAL REFERENCE STATION: WESTAR, N 37° 46' 27.45 W 122° 22' 56.66".
  - c. VERTICAL CONTROL: NOAA TIDE BENCH MARK PID HT2935, ELEVATION 11.05'
  - d. CONVERSION BETWEEN NAVD88 AND MLLW BASED ON NOAA TIDE BENCH MARK PID HT2935 YACHT 1947 SHIFT OF +0.13.
  - e. THE VERTICAL DATUM FOR THIS PROJECT IS MEAN LOWER WATER, PER NOAA TIDE STATION 9414816.

	VERTICAL DATUM	
	MLLW	FT
EXTREME HIGH WATER		+7.65
MEAN HIGHER HIGH WATER		+6.10
MEAN HIGH WATER		+5.49
MEAN LOW WATER		+1.14
MEAN LOWER LOW WATER		0.00
(NAVD 88)		-0.13
EXTREME LOW WATER		-2.25

**DISPOSAL SITE**

1. DREDGE MATERIAL TO BE DISPOSED AT APPROVED SITES DISPOSAL SITE.
2. CONTRACTOR TO PROVIDE ALL EQUIPMENT AND SERVICES AS NECESSARY TO MEET EPA AND CITY REQUIREMENTS FOR TUG AND SCOW TRACKING, REPORTING AND WEblink FOR DISPOSAL AT APPROVED SITES OR APPROVED DREDGE DISPOSAL SITE.

**ABBREVIATIONS**

APPROX. CDF C CRRP E ELEV. EXIST. MARKER SF-11 SF-DODS MAINT. MAX MIN m MLLW MSL MWRP N NAVD88 NIC PT S STA TYP. W W/ 1:4	APPROXIMATE CONFINED DEWATERING FACILITY CENTER LINE CULLINAN RANCH RESTORATION PROJECT EAST ELEVATION EXISTING KM KILOMETER ALCATRAZ ISLAND DISPOSAL SITE SAN FRANCISCO DEEP OCEAN DISPOSAL SITE MAINTAINED MAXIMUM MINIMUM METER MEAN LOWER LOW WATER MEAN SEA LEVEL MONTEZUMA WETLANDS RESTORATION PROJECT NORTH NORTH AMERICAN VERTICAL DATUM OF 1988 NOT IN CONTRACT POINT SOUTH STATION TYPICAL WEST WITH SLOPE 4 HORIZONTAL TO 1 VERTICAL
---	--

**LEGEND**

- LIMIT OF AUTHORIZED DREDGED AREA.
- MATERIAL DESIGN DREDGE DEPTH PER 2022 SURVEY
- DU1 LIMIT BOUNDARY
- DU2 LIMIT BOUNDARY
- DU3 LIMIT BOUNDARY
- DU3 FOUNDATION DISPOSAL BOUNDARY
- 11.3ft PROJECT DEPTH MLLW
- C SECTION OR DETAIL IDENTIFICATION
- C-1C-2 SHEET ON WHICH SECTION OR DETAIL IS SHOWN
- C-1C-2 SHEET FROM WHICH SECTION OR DETAIL IS TAKEN

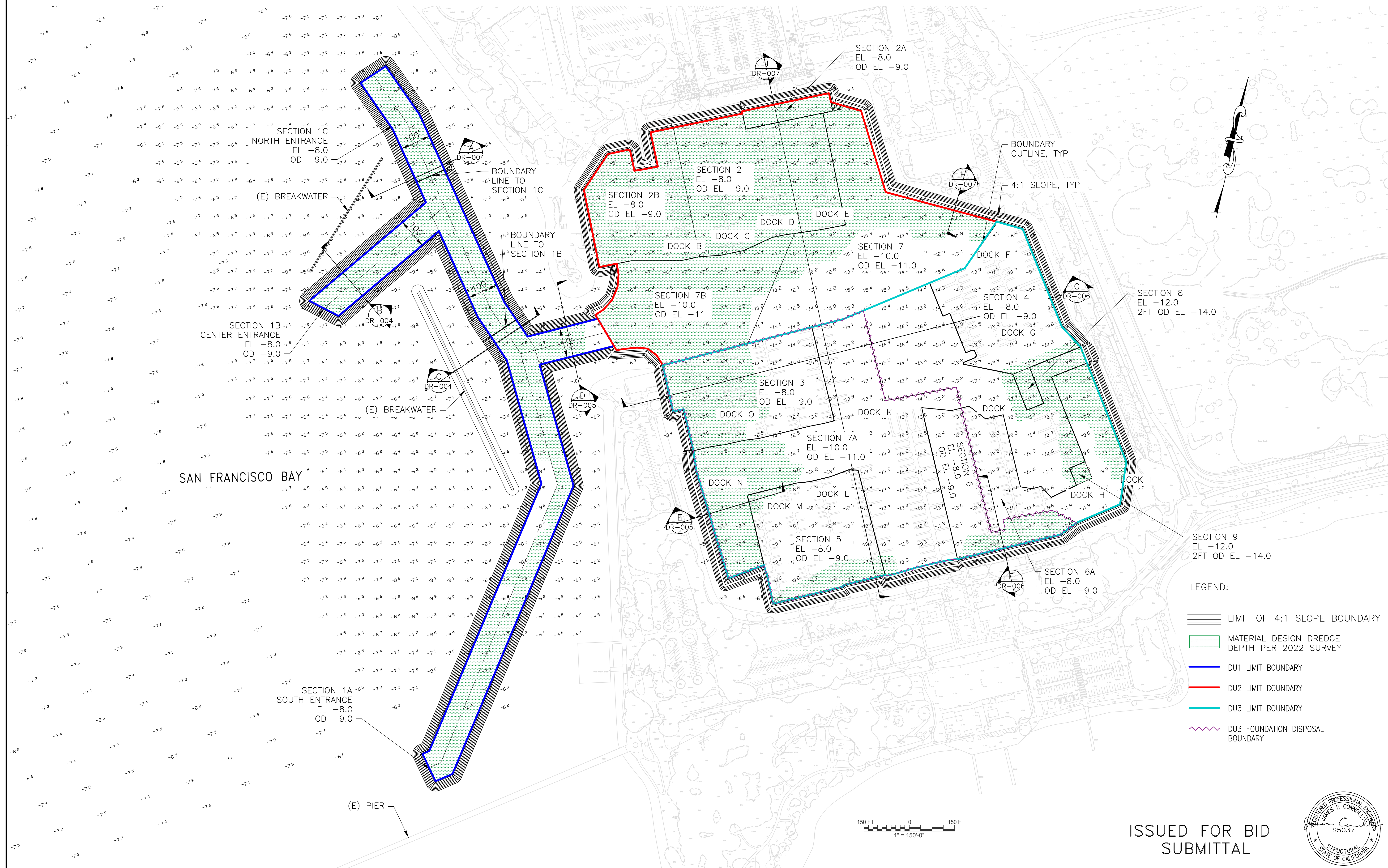
ISSUED FOR BID  
SUBMITTAL



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ.: <u>AS SHOWN</u>
SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	APPROVED: _____ DATE _____	DRAWN: <u>NIF</u> VERT.: _____
WATERSHED REVIEW: _____ DATE _____	CITY ENGINEER: _____	CHECK: <u>JMC</u> BOOK: _____	AS BUILT: _____ DATE: <u>6/3/22</u>

PLOTTED BY: NOEL FORTEZ PLOT DATE: 10/20/24 11:41:50 AM  
 ISSUED FOR BID SUBMITTAL  
 01-22-2024  
 DATE  
 MARK  
 REVISION  
 0  
 DESCRIPTION  
 APPROVAL  
 JMC





- LEGEND:
- LIMIT OF 4:1 SLOPE BOUNDARY
  - MATERIAL DESIGN DREDGE DEPTH PER 2022 SURVEY
  - DU1 LIMIT BOUNDARY
  - DU2 LIMIT BOUNDARY
  - DU3 LIMIT BOUNDARY
  - DU3 FOUNDATION DISPOSAL BOUNDARY

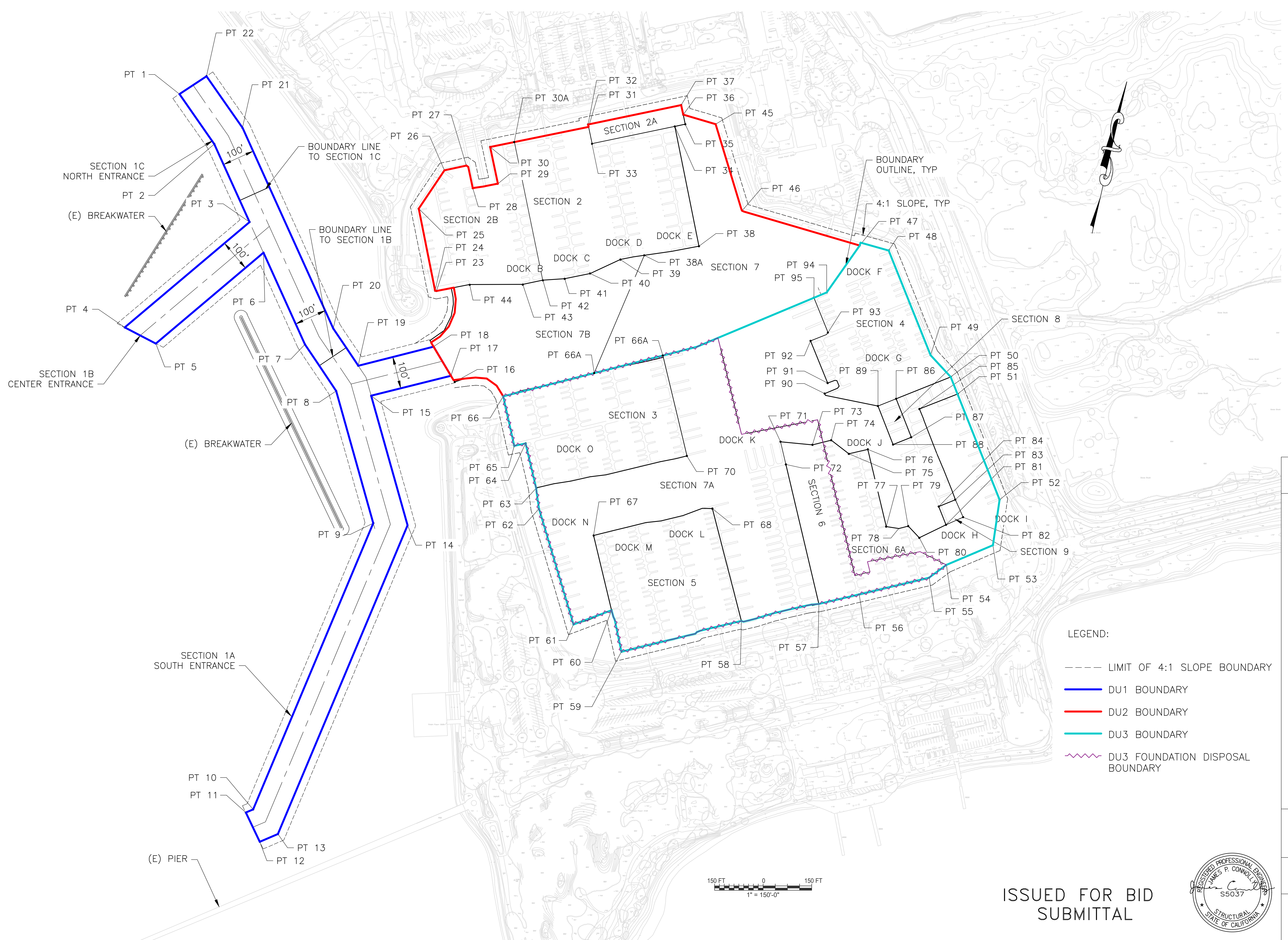
ISSUED FOR BID  
SUBMITTAL



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ. <u>AS SHOWN</u>	DENEMLEY CIVIL ENGINEERING & WATERFRONT 1847 CENTER ST., 9TH FL., BERKELEY, CA 94704 TEL: 510.838.8872 FAX: 510.838.9752 WWW.DENEMLEY.COM	<b>COWI</b> BERKELEY MAIN CHANNEL AND HARBOR MARINA DREDGING CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA DREDGE SITE PLAN	PLAN _____
SURVEY PARTY CHIEF _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER _____ DATE _____	VERT. _____			FILE _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	CITY ENGINEER _____ DATE _____	APPROVED: _____ DATE _____	BOOK _____	REVISION _____	DR-001	
			DATE <u>8/3/23</u>	MARK _____	SHEET <u>3</u> OF <u>9</u>	

DATE	DESCRIPTION	APPROVAL
01-22-2024	ISSUED FOR BID SUBMITTAL	JMC





LEGEND:

- LIMIT OF 4:1 SLOPE BOUNDARY
- DU1 BOUNDARY
- DU2 BOUNDARY
- DU3 BOUNDARY
- DU3 FOUNDATION DISPOSAL BOUNDARY

150 FT 0 150 FT  
1" = 150'-0"

ISSUED FOR BID  
SUBMITTAL



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ. <u>AS SHOWN</u>	 <b>COWI</b> <small>233 24th Street, 19th Floor, Berkeley, CA 94712</small> <small>Tel: 510.838.8872 Fax: 510.838.9752</small>	BERKELEY MAIN CHANNEL AND HARBOR MARINA DREDGING CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA	PLAN _____
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: <u>JUBA</u> VERT. _____		FILE _____	
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES		CITY ENGINEER: _____ DATE _____	CHECK: <u>JMC</u> BOOK _____	DATE: <u>8/3/23</u>	DREDGE PLAN AND POINTS	DR-002



NOTES:

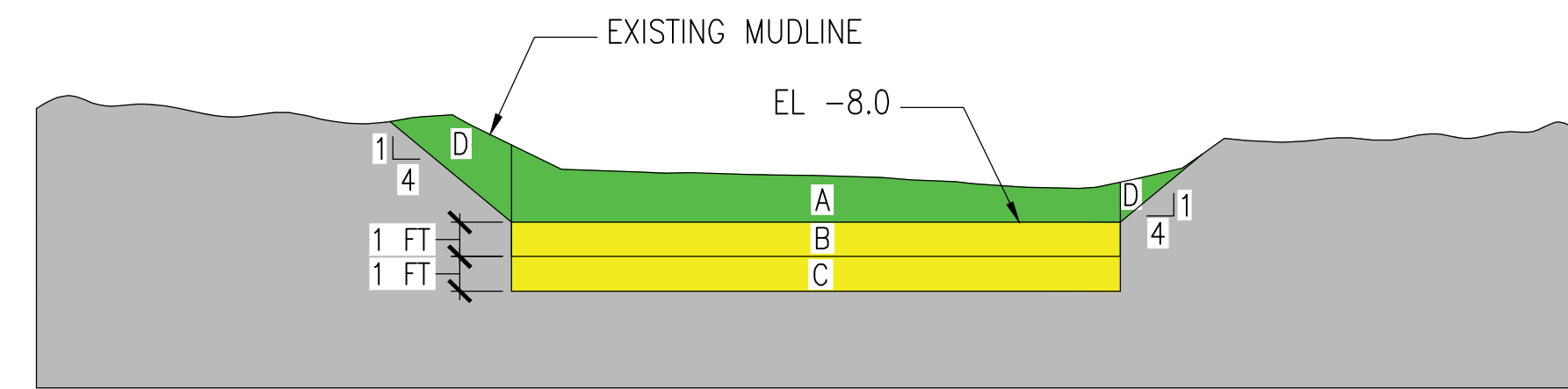
- THE TABLE PROVIDES ESTIMATED DREDGE VOLUMES FOR THE DREDGE AREA DEFINED BY THE CITY.
- THE PREDREDGE SURVEY VOLUMES ARE BASED ON HYDROGRAPHIC DATA PROVIDED BY ETRAC DATED SEPTEMBER 12TH TO 15TH, 2022.
- THE MATERIAL REMOVED SHALL BE MEASURED BY CUBIC YARD IN PLACE, BY MEANS OF SOUNDINGS TAKEN BEFORE AND AFTER DREDGING. SOUNDING INFORMATION SHALL BE RECORDED USING HYPACK/HYSWEEP SURVEY SOFTWARE OR EQUIVALENT AND PROCESSED USING HYPACK/HYSWEEP EDITOR SOFTWARE OR EQUIVALENT. ALL TIN MODEL SURFACES USED FOR DREDGING VOLUME CALCULATIONS SHALL BE CREATED AS FOLLOWS:  
  
CELL SIZE: 3' X 3'  
SOUNDING POSITION: CENTER OF CELL  
CELL STATISTICS: AVERAGE  
  
ALL VOLUME CALCULATIONS SHALL BE DETERMINED VIA TIN TO ADVANCED CHANNEL PLAN METHODOLOGY USING HYPACK MAX OR EQUIVALENT. CONTRACTOR TO PERFORM POST-DREDGE HYDROGRAPHIC SURVEYS TO VERIFY THE REQUIRED MINIMUM DREDGED DEPTH REQUIREMENTS, FOR THE DISPOSAL AND THE OVERALL DREDGING HAVE BEEN MET.
- BLASTING WILL NOT BE ALLOWED DURING DREDGING OPERATION.
- DREDGING OPERATIONS SHALL MINIMIZE THE IMPACT TO THE ENVIRONMENT AS REQUIRED AND TO EXTENT PRACTICAL. ALL MITIGATION PRACTICES SHALL BE IN ACCORDANCE WITH THE PERMIT(S) CONDITIONS.
- CONTRACTOR SHALL USE PREVENTATIVE MEASURES TO REDUCE TURBIDITY. ALL TURBIDITY PREVENTION PRACTICES SHALL BE IN ACCORDANCE WITH PERMIT(S) CONDITION. A DREDGING SITE INSPECTOR WILL BE REQUIRED TO INSURE THE PERMIT REQUIREMENTS ARE SATISFIED. THESE REQUIREMENTS WILL INCLUDE:
  - DURING TRANSIT FROM THE DREDGING SITE TO THE DISPOSAL SITE, THE LEVEL THAT A HOPPER CAN BE FILLED SHALL NOT EXCEED THE LOAD LINE (PLIMSOLL LINE) TO PREVENT ANY DREDGED MATERIAL OR WATER FROM SPILLING OVER THE SIDES. NO HOPPER DREDGE SHALL BE FILLED ABOVE THIS PREDETERMINED LEVEL DURING TRANSIT. BEFORE EACH HOPPER DREDGE IS TRANSPORTED TO THE DISPOSAL SITE, THE DREDGING SITE INSPECTOR SHALL CERTIFY THAT IT IS FILLED CORRECTLY.
  - WHEN USING A DISPOSAL BARGE OR SCOW, NO WATER SHALL BE ALLOWED TO FLOW OVER THE SIDES. THE LEVEL THAT A DISPOSAL BARGE OR SCOW CAN BE FILLED SHALL NOT EXCEED THE LOAD LINE (PLIMSOLL LINE) TO PREVENT ANY DREDGED MATERIAL OR WATER FROM SPILLING OVER THE SIDES DURING TRANSIT FROM THE DREDGING SITE TO THE DISPOSAL SITE. NO DISPOSAL BARGE OR SCOW SHALL BE FILLED ABOVE THIS PREDETERMINED LEVEL. BEFORE EACH DISPOSAL BARGE OR SCOW IS TRANSPORTED TO THE DISPOSAL SITE, THE DREDGING SITE INSPECTOR SHALL CERTIFY THAT IT IS FILLED CORRECTLY.
- MATERIAL SHALL BE HANDLED AND DISPOSED OF ACCORDING TO PERMITS AND LOCAL, STATE AND FEDERAL REGULATIONS.
- CONTRACTOR TO CONFIRM DREDGE AREA COORDINATES PRIOR TO START OF DREDGING.

DREDGE AREA COORDINATES		
PT #	EASTING	NORTHING
1	6036114.4595	2143949.4784
2	6036221.8967	2143795.2145
3	6036330.8787	2143554.0744
4	6035945.1041	2143228.3931
5	6036041.1961	2143178.6458
6	6036373.6905	2143459.3464
7	6036501.7155	2143176.0705
8	6036598.4441	2143031.9294
9	6036712.9848	2142623.3609
10	6036341.6732	2141738.5172
11	6036319.2975	2141728.9712
12	6036362.4508	2141638.6612
13	6036418.1982	2141662.4442
14	6036818.6795	2142616.8000
15	6036706.4409	2143017.1566
16	6036964.4317	2143059.7011
17	6036952.9146	2143079.0336
18	6036899.4801	2143168.7221
19	6036666.3519	2143110.1954
20	6036589.4032	2143224.8615
21	6036309.2255	2143844.7996
22	6036197.8570	2144004.7082
23	6036907.8151	2143341.0879
24	6036903.9349	2143342.0385
25	6036853.0958	2143595.6198
26	6036932.9808	2143713.8813
27	6037000.2810	2143728.6393
28	6037020.3376	2143658.6166
29	6037097.6424	2143672.5633
30	6037073.6662	2143786.1079
31	6037377.6940	2143848.2417
32	6037376.1397	2143855.6894
33	6037388.5955	2143796.0062
34	6037644.2418	2143849.3596
35	6037676.4398	2143856.0793
36	6037670.2119	2143885.9209
37	6037663.9840	2143915.7625
38	6037718.8138	2143479.2343
39	6037476.5183	2143438.0633
40	6037382.6151	2143394.8586
41	6037304.0442	2143379.0002
42	6037236.4867	2143374.3229
43	6037174.7168	2143361.2722
44	6037010.5876	2143360.5823
45	6037770.1707	2143856.3196
46	6037852.1507	2143589.1898
47	6038215.3819	2143481.5551
48	6038304.7244	2143466.2679
49	6038434.4327	2143142.5878
50	6038496.6712	2143075.5745
51	6038518.2854	2143022.9865
52	6038647.3212	2142695.6328
53	6038626.7265	2142555.5525
54	6038483.2044	2142494.5451
55	6038430.0274	2142455.1278
56	6038214.0668	2142403.4000
57	6038089.3595	2142373.6829
58	6037849.8722	2142321.2985
59	6037479.5263	2142226.1130
60	6037448.7224	2142354.4403

DREDGE AREA COORDINATES		
PT #	EASTING	NORTHING
61	6037331.4801	2142310.4057
62	6037224.6371	2142667.6718
63	6037216.0262	2142732.1431
64	6037183.4722	2142870.0921
65	6037148.3522	2142862.4194
66	6037114.1189	2143015.4376
67	6037393.2667	2142585.4652
68	6037760.4036	2142668.3237
69	-	-
70	-	-
71	6037970.8329	2142875.0332
72	6037987.4474	2142804.7563
73	6038069.3660	2142865.5704
74	6038127.2716	2142879.7671
75	6038181.8546	2142837.6828
76	6038240.4602	2142851.5275
77	6038297.2271	2142612.8497
78	6038336.1240	2142606.6755
79	6038365.1988	2142614.3729
80	6038399.4322	2142578.2104
81	6038481.8477	2142618.3656
82	6038534.6949	2142641.8713
83	6038510.5904	2142696.0648
84	2142696.0648	2142674.8097
85	6038399.9161	2142976.2490
86	6038327.9096	2143008.0648
87	6038374.5182	2142888.6363
88	6038271.7202	2142985.5269
89	6038271.7202	2142985.5269
90	6038107.1829	2143023.9944
91	6038116.1926	2143056.2569
92	6038063.4741	2143186.5833
93	6038117.2271	2143212.6287
94	6038113.5142	2143336.3411
95	6038073.6883	2143320.2447
96	-	-
97	-	-

COMPOSITE AREA		A	B	C	D	A+D	A+B+C+D	A+B+D	10% INCREASE TO BE INCLUDED FOR ASSUMED SEDIMENTATION ACCUMULATION, CY	DISPOSAL SITES		
SECTION AREA	DESIGN DEPTH (FT, MLLW)	FOOTPRINT DREDGE VOLUME TO DESIGN DEPTH, CY	ESTIMATED VOLUME OF DESIGN DEPTH 1 FT OVERDREDGE, CY	ESTIMATED VOLUME OF DESIGN DEPTH 2 FT OVERDREDGE, CY	ESTIMATED DREDGE VOLUME OF DESIGN DEPTH 4:1 SLOPE, CY	ESTIMATED DREDGE VOLUME TO DESIGN DEPTH, CY	TOTAL VOLUME 2-FT OVERDREDGE ALLOWANCE, CY	TOTAL VOLUME 1-FT OVERDREDGE ALLOWANCE, CY				
1A	BM-DU1	-8	10,187	6,299	-	1,204	11,391	-	17,690	19,459	SF-11, MWRP COVER	
1B	BM-DU1	-8	9,529	3,653	-	1,216	10,745	-	14,398	15,838	SF-11, MWRP COVER	
1C	BM-DU1	-8	2,365	1,436	-	203	2,568	-	4,004	4,404	SF-11, MWRP COVER	
2	BM DU2	-8	8,814	7,495	-	488	9,302	-	16,798	18,477	SF-11, MWRP COVER	
2A	BM DU2	-8	3,051	677	-	1,280	4,331	-	5,008	5,509	SF-11, MWRP COVER	
2B	BM DU2	-8	7,908	4,262	-	3,029	10,937	-	15,198	16,718	SF-11, MWRP COVER	
3	BM DU3	-8	4,542	3,388	-	603	5,145	-	8,533	9,386	MWRP FOUNDATION	
4	BM DU3	-8	210	347	-	350	560	-	907	998	SF-11, SF DODS, MWRP COVER	
5	BM DU3	-8	2,248	2,436	-	483	2,731	-	5,167	5,684	MWRP FOUNDATION	
6	BM DU3	-8	644	221	-	78	722	-	943	1,037	MWRP FOUNDATION	
6A	BM DU3	-8	1,356	2,321	-	1,550	2,906	-	5,227	5,750	SF-11, SF DODS, MWRP COVER	
7	BM DU2/DU3	-10	9,824	6,880	-	2,225	12,049	-	18,928	20,821	SF-11, SF DODS, MWRP COVER	
7A	BM DU3	-10	9,339	4,160	-	848	10,187	-	14,347	15,782	MWRP FOUNDATION	
7B	BM DU3	-10	17,884	6,194	-	222	18,106	-	24,301	26,731	SF-11, SF DODS, MWRP COVER	
8	BM DU3	-12	285	-	623	29	314	937	-	1,031	SF-11, SF DODS, MWRP COVER	
9	BM DU3	-12	405	-	259	154	559	818	-	900	SF-11, SF DODS, MWRP COVER	
TOTAL								1,755	151,449			
							153,204		168,525			

- FINAL DISPOSAL SITES TO BE IDENTIFIED BY THE DREDGE MATERIAL MANAGEMENT OFFICE (DMMO) SUITABILITY LETTER. FOR PURPOSES OF THIS BID, THE CONTRACTOR CAN ASSUME 74% OF THE TOTAL DREDGE MATERIAL, BY VOLUME, WILL BE REQUIRED TO BE DISPOSED OF AT A BENEFICIAL REUSE SITE. MATERIAL TO BE DISPOSED OF AT THE BENEFICIAL REUSE SITE DOES NOT NEED TO COME FROM EACH INDIVIDUAL DREDGED UNIT, THE DISPOSAL REQUIREMENT IS APPLIED ONLY TO THE TOTAL DREDGE MATERIAL BY VOLUME. BASED ON REGULATORY REQUIREMENTS, THE CONTRACTOR SHALL DECIDE AND NOTE IN THEIR DREDGE OPERATIONS PLAN WHERE MATERIAL WILL BE DISPOSED.



GENERAL VOLUME COMPUTATION SKETCH  
NOT TO SCALE

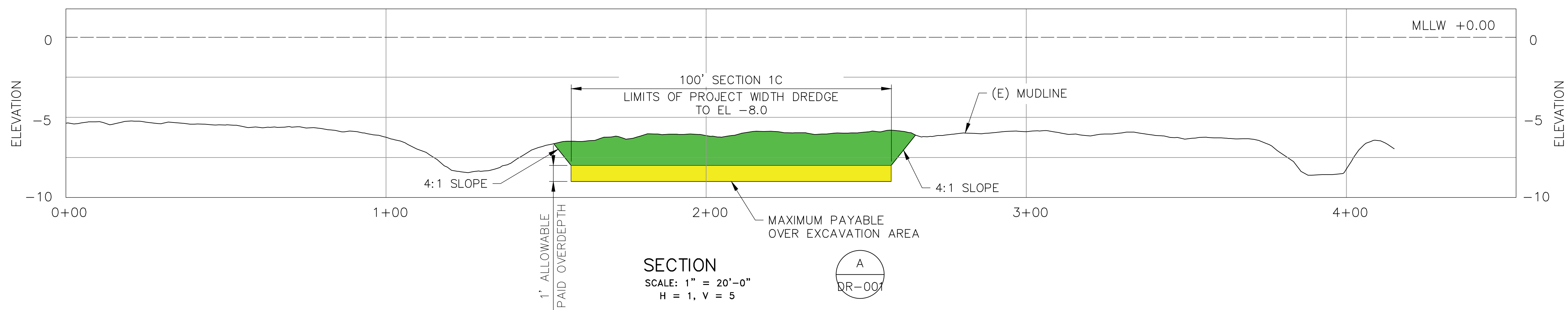
ISSUED FOR BID  
SUBMITTAL



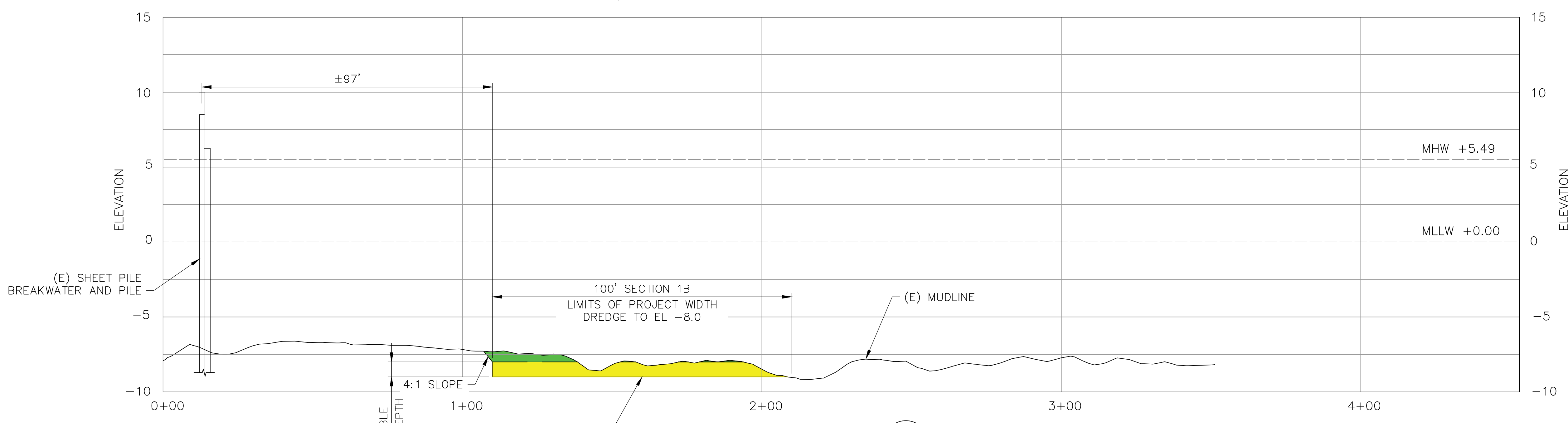
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>	 <b>COWI</b> 200 20th Street, 17th Fl., Berkeley, CA 94712 Tel: 510.838.8972 Fax: 510.838.9151	BERKELEY MAIN CHANNEL AND HARBOR MARINA DREDGING CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA DREDGE NOTES, COORDINATES AND VOLUME ESTIMATES	PLAN _____
SURVEY PARTY CHIEF _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER _____	DRAWN: <u>JNF</u>	VERT.: _____			FILE _____
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	CITY ENGINEER _____	APPROVED: _____ DATE _____	CHECK: <u>JMC</u>	BOOK: _____	DATE: <u>6/3/22</u>	REVISION _____	DR-003
			AS BUILT _____				SHEET 4 OF 9

PLOTTED BY: NOEL FORTEZ PLOT DATE: 10/20/2024 11:41:42 AM  
 APPROVAL  
 JMC  
 ISSUED FOR BID SUBMITTAL  
 01-22-2024  
 DATE  
 MARK  
 REVISION  
 0

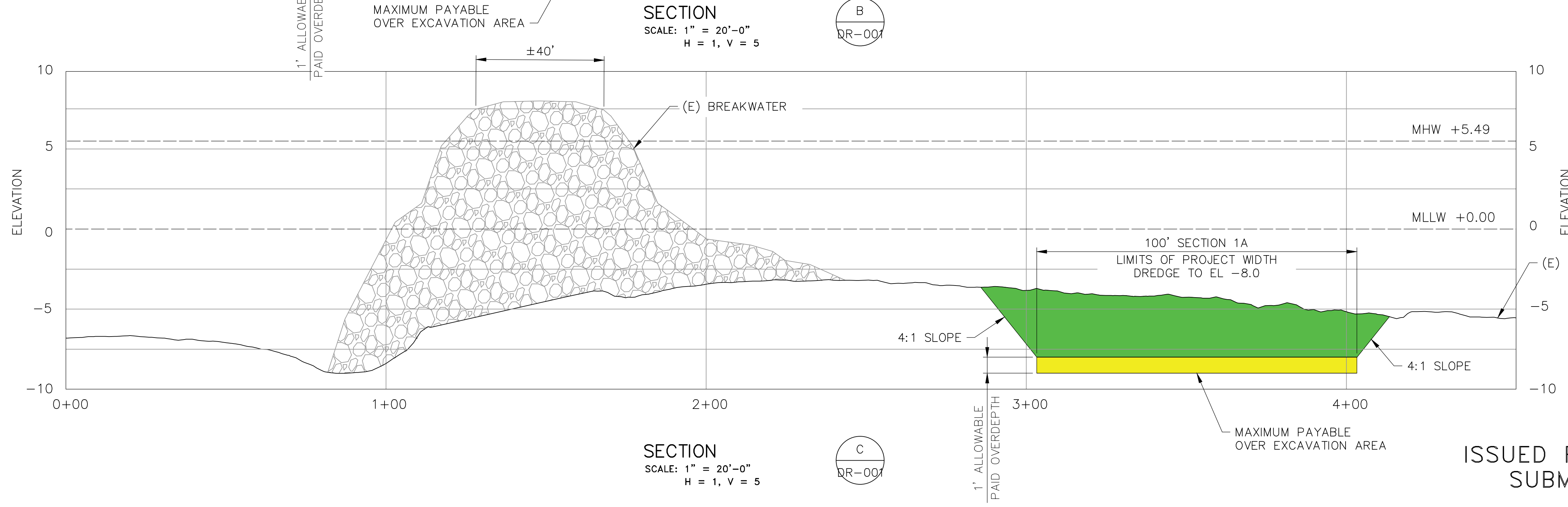




**SECTION A**  
SCALE: 1" = 20'-0"  
H = 1, V = 5  
DR-001



**SECTION B**  
SCALE: 1" = 20'-0"  
H = 1, V = 5  
DR-001



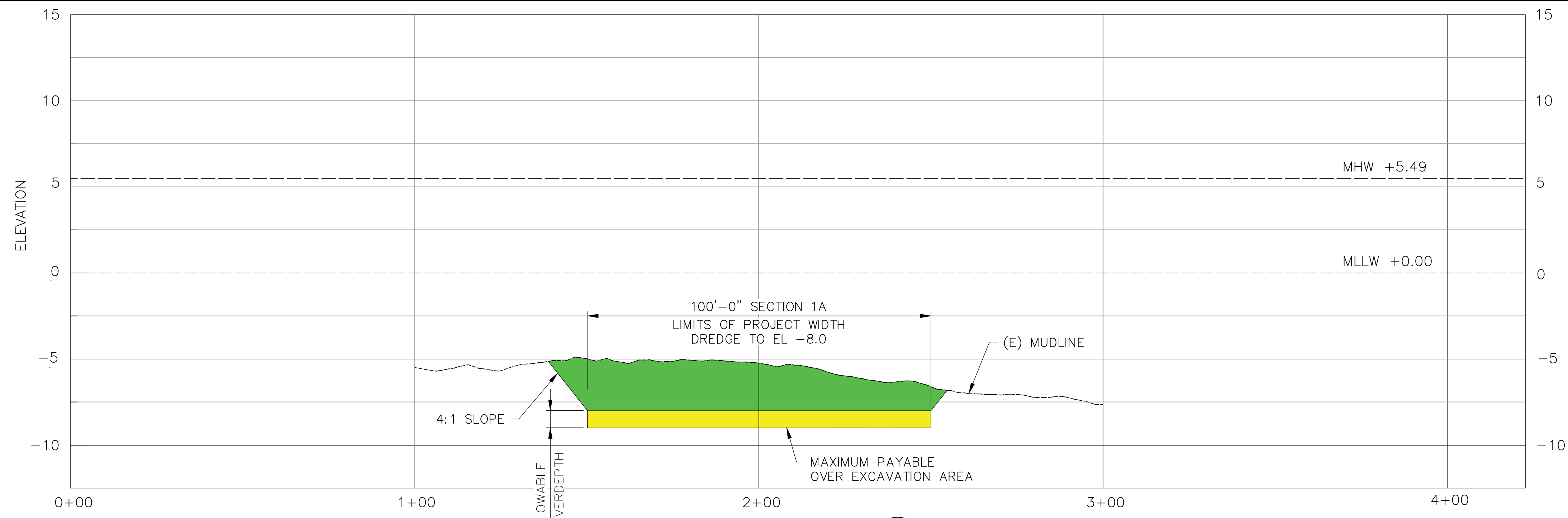
**SECTION C**  
SCALE: 1" = 20'-0"  
H = 1, V = 5  
DR-001

ISSUED FOR BID  
SUBMITTAL



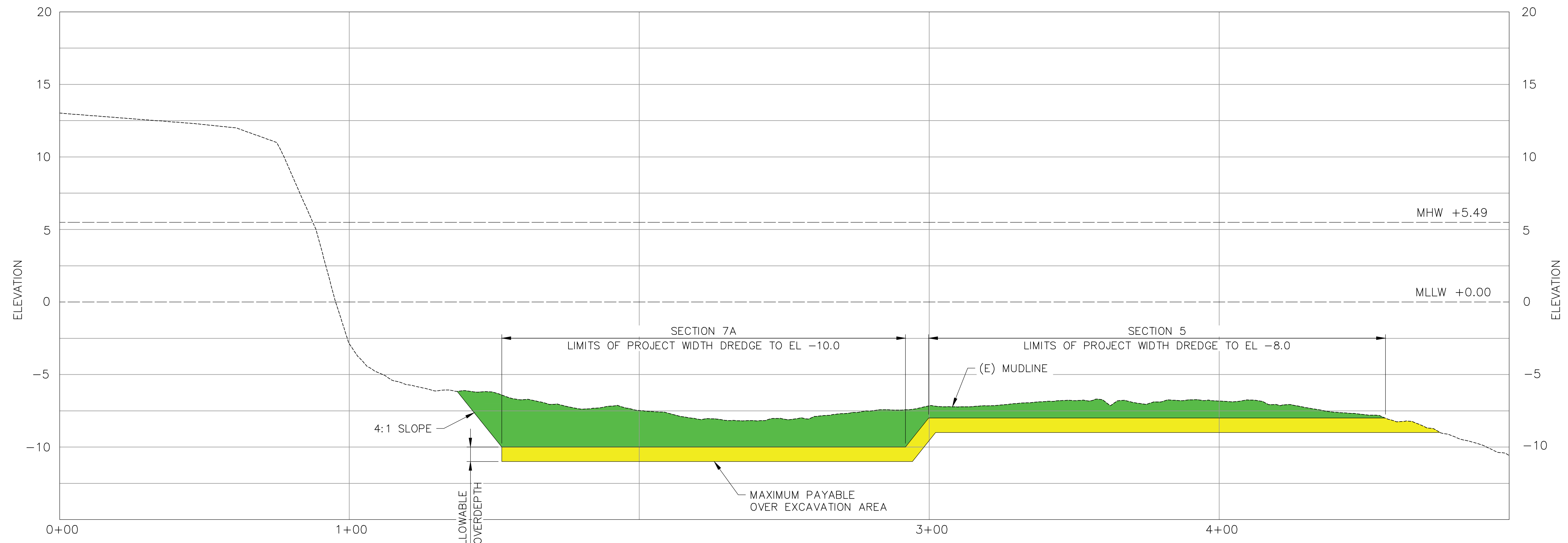
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>			BERKELEY MAIN CHANNEL AND HARBOR MARINA DREDGING CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA DREDGE SOIL SECTIONS SHEET 1 OF 4	PLAN _____
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: <u>NIF</u>	VERT.: _____				FILE _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES		APPROVED: _____ DATE _____	CHECK: <u>JMC</u>	BOOK: _____	DATE: <u>6/3/22</u>			DR-004
		CITY ENGINEER: _____ DATE _____	AS BUILT: _____	DATE: <u>6/3/22</u>				SHEET 5 OF 9





SECTION  
SCALE: 1" = 20'-0"  
H = 1, V = 5

D  
DR-001



SECTION  
SCALE: 1" = 20'-0"  
H = 1, V = 5

E  
DR-001

ISSUED FOR BID  
SUBMITTAL



PROJECT MANAGER: _____ DATE: _____	DEPICTION OF MONUMENTS: _____ DATE: _____	SUBMITTED: _____ DATE: _____	DESIGN: <u>JRVS</u> HORIZ.: <u>AS SHOWN</u>
_____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	VERT.: _____
_____	WATERSHED REVIEW: _____ DATE: _____	APPROVED: _____ DATE: _____	BOOK: _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	_____	CITY ENGINEER: _____	AS BUILT: _____ DATE: <u>6/3/22</u>

**BERKELEY**  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA

**COWI**  
PARIS RECREATION & WATERFRONT  
1841 CENTER ST., 5th FL, BERKELEY, CA 94704

**BERKELEY MAIN CHANNEL AND HARBOR MARINA DREDGING**  
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA

**DREDGE SOIL SECTIONS**  
SHEET 2 OF 4

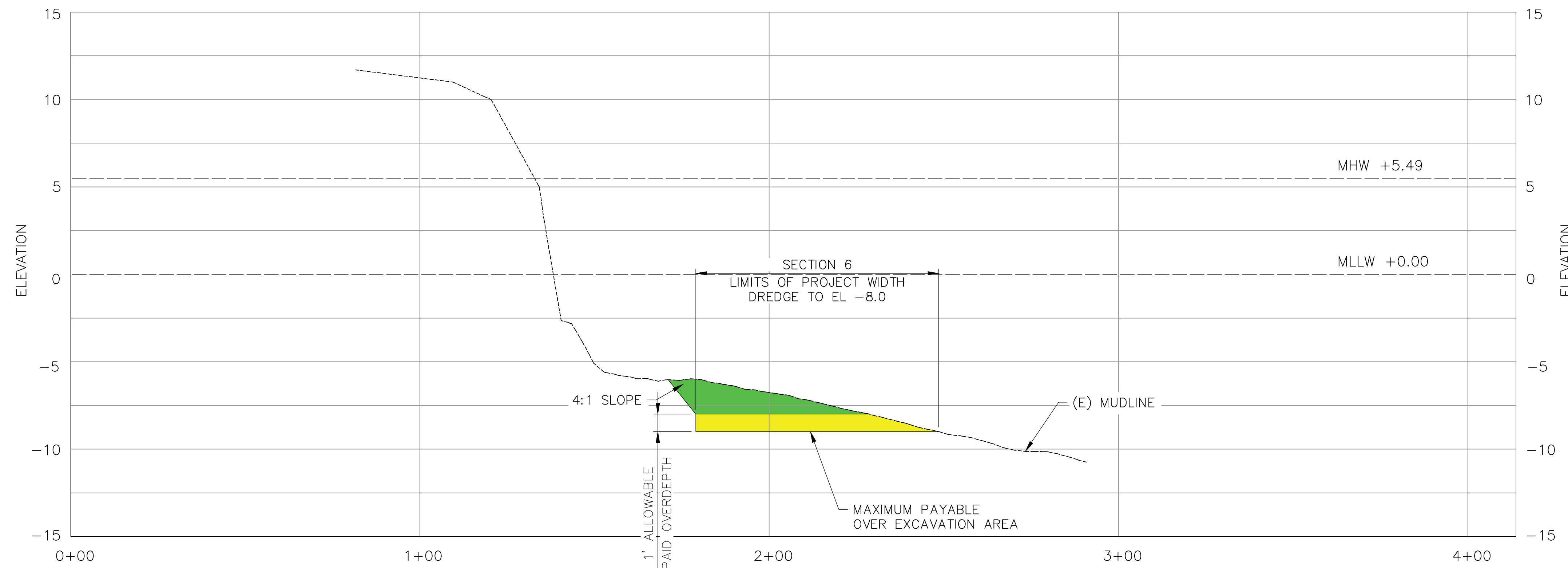
PLAN: \_\_\_\_\_

FILE: \_\_\_\_\_

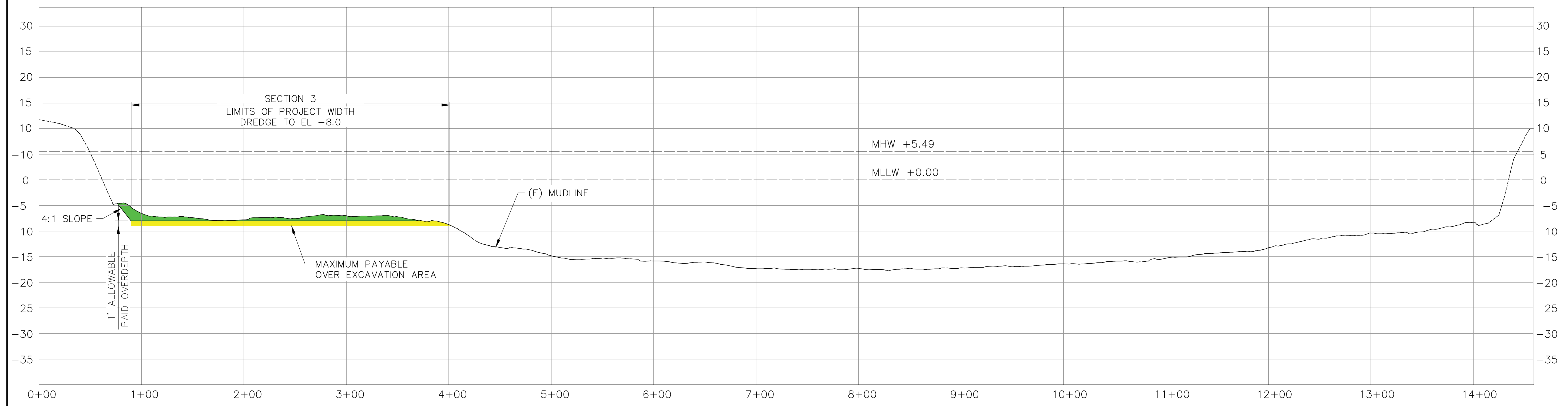
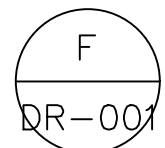
DR-005  
SHEET 2 OF 9

REVISION	MARK	DATE	DESCRIPTION
0		01-22-2024	ISSUED FOR BID SUBMITTAL
	JMC		APPROVAL

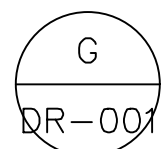




SECTION  
SCALE: 1" = 20'-0"  
H = 1, V = 5



SECTION  
SCALE: 1" = 50'-0"  
H = 1, V = 5



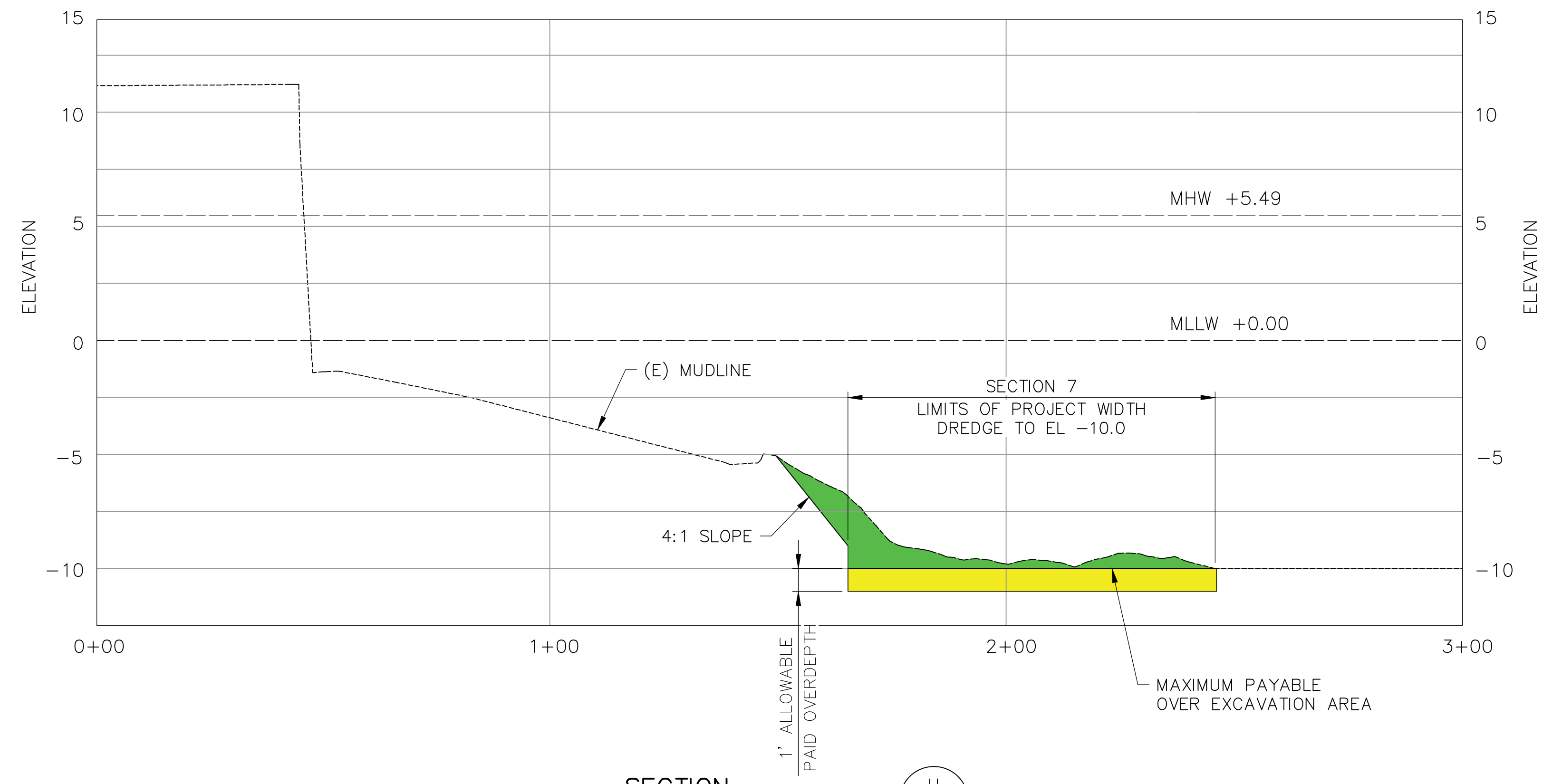
ISSUED FOR BID  
SUBMITTAL



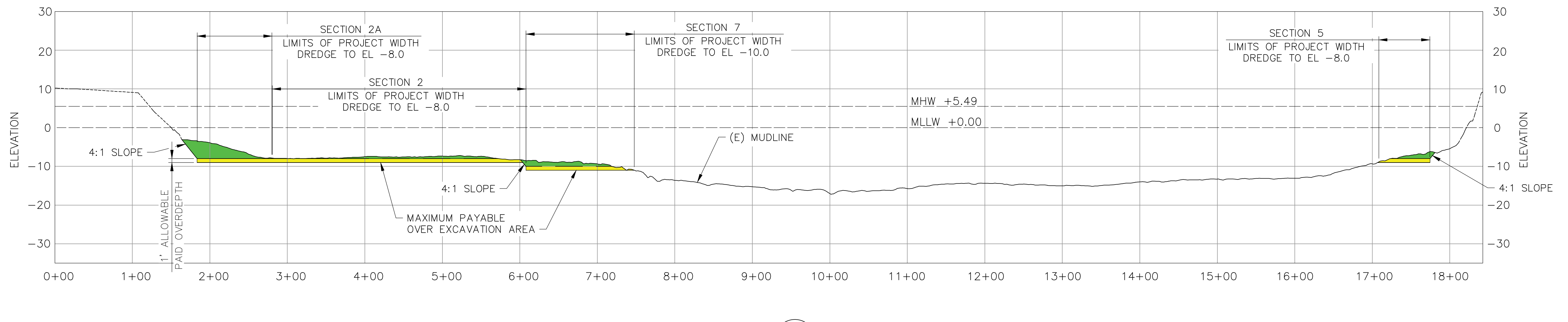
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>	 <b>COWI</b> <small>222 SAN BRUNO, 17th FLOOR, BERKELEY, CA 94702</small> <small>Tel: 510.838.8972 Fax: 510.838.9752</small> <small>WWW.COWI.COM</small>	PLAN: _____
_____	SURVEY PARTY CHIEF: _____	SUPERVISING CIVIL ENGINEER: _____	DRAWN: <u>NIF</u>	VERT.: _____		FILE: _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	WATERSHED REVIEW: _____ DATE _____	APPROVED: _____ DATE _____	CHECK: <u>JMC</u>	BOOK: _____	<b>BERKELEY MAIN CHANNEL AND HARBOR MARINA DREDGING</b> <b>CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA</b> <b>DREDGE SOIL SECTIONS</b> <b>SHEET 3 OF 4</b>	REVISION: _____
	_____	CITY ENGINEER: _____	AS BUILT: _____	DATE: <u>6/3/22</u>		DR-006

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
0		01-22-2024	ISSUED FOR BID SUBMITTAL	JMC





SECTION H  
SCALE: 1" = 20'-0"  
H = 1, V = 5



SECTION J  
SCALE: 1" = 70'-0"  
H = 1, V = 5

ISSUED FOR BID  
SUBMITTAL



PROJECT MANAGER: _____	DATE: _____	DEPICTION OF MONUMENTS: _____	DATE: _____	SUBMITTED: _____	DATE: _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>	 <b>BERKELEY</b> RECREATION & WATERFRONT 1841 CENTER ST., 5th Fl., BERKELEY, CA 94704	 <b>COWI</b> 2525 SHAW BLVD., STE. 100, SAN FRANCISCO, CA 94133 TEL: 415.962.8870 FAX: 415.962.8872	<b>BERKELEY MAIN CHANNEL AND HARBOR MARINA DREDGING</b> CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA <b>DREDGE SOIL SECTIONS</b> SHEET 4 OF 4	PLAN: _____
SURVEY PARTY CHIEF: _____	DATE: _____	WATERSHED REVIEW: _____	DATE: _____	APPROVED: _____	DATE: _____	CHECK: <u>JMC</u>	VERT.: _____				FILE: _____
CITY ENGINEER: _____	DATE: _____	FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES		CITY ENGINEER: _____	DATE: _____	AS BUILT: _____	BOOK: _____				REVISION: _____

ISSUED FOR BID SUBMITTAL	DATE	REVISION	MARK	DESCRIPTION	APPROVAL
0	01-22-2024				JMC

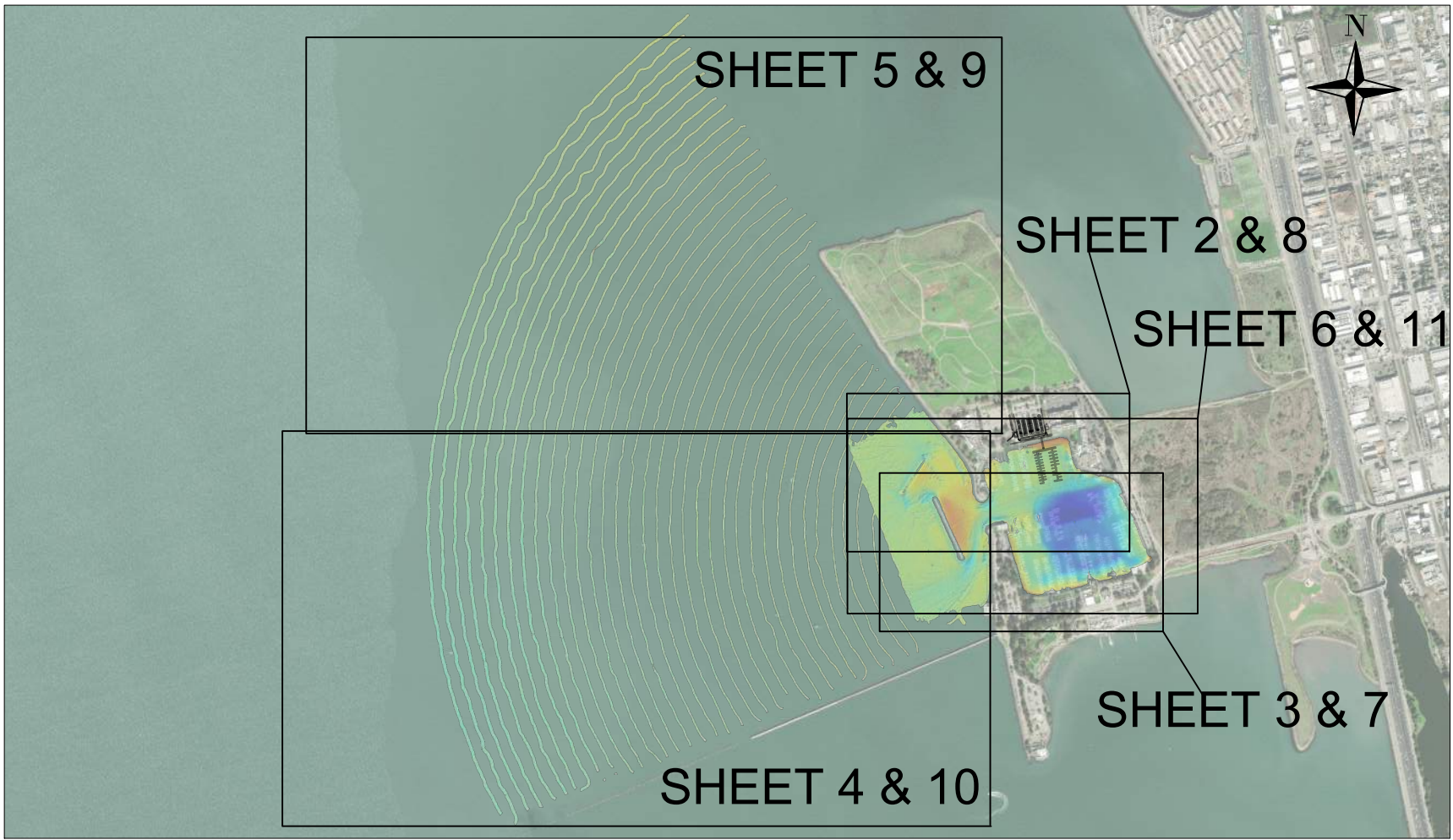


# BERKELEY MARINA

## COWI

### HYDROGRAPHIC SURVEY

Overview



not to scale


**SHEET INDEX:**

- SHEET 1 - PROJECT INFORMATION
- SHEET 2 - SOUNDINGS
- SHEET 3 - SOUNDINGS
- SHEET 4 - SOUNDINGS
- SHEET 5 - SOUNDINGS
- SHEET 6 - SOUNDINGS
- SHEET 7 - COLORED DEM
- SHEET 8 - COLORED DEM
- SHEET 9 - COLORED DEM
- SHEET 10 - COLORED DEM
- SHEET 11 - COLORED DEM

**GENERAL NOTES:**

1. SURVEY DATA COLLECTED ON SEPTEMBER 12TH-15TH, 2022
2. HORIZONTAL DATUM/PROJECTION: NAD83 (2011), SPCS CALIFORNIA ZONE 03 - U.S. SURVEY FEET
3. HORIZONTAL CONTROL: ETRAC ACTUAL REFERENCE STATION: WESTAR, N 37° 46' 27.45 W 122° 22' 56.66"
4. VERTICAL DATUM: MLLW, U.S. SURVEY FEET
5. VERTICAL CONTROL: NOAA TIDE BENCH MARK PID HT2935, ELEVATION 11.05'
6. CONVERSION BETWEEN NAVD88 AND MLLW BASED ON NOAA TIDE BENCH MARK PID HT2935 YACHT 1947 SHIFT OF +0.13'
7. THIS SURVEY REPRESENTS GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
8. POSITIONING AND MOTION DATA WAS COLLECTED USING AN APPLANIX POS MV V5.
9. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2022 AND 2024 OPERATING AT 200 KHZ.

	COWI 555 12TH STREET SUITE 1700 OAKLAND, CA 94607 510.839.8972 COWI.COM
---	--

	eTrac Inc. 637 LINDARO STREET SUITE 100 SAN RAFAEL, CA 94901 415.462.0421 eTracInc.com
--	---

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 29, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION # _____	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

<b>BERKELEY MARINA</b> <b>HYDROGRAPHIC SURVEY</b>
<b>PROJECT INFORMATION</b>

Reference Number:
<b>S1</b>





SURVEY  
STAMPS/SIGNATURES

**COWI**

COWI  
555 12TH STREET  
SUITE 1700  
OAKLAND, CA 94607  
510.839.8972  
COWI.COM

**eTrac**

eTrac Inc.  
637 LINDARO STREET  
SUITE 100  
SAN RAFAEL, CA 94901  
415.462.0421  
eTracInc.com

SURVEY DATE:  
SEPTEMBER 12-15, 2022

PLOT DATE:  
SEPTEMBER 28, 2022

DESIGNED BY: SR

CHECKED BY: DP

REVISION #

FILE NAME:  
COWI\_20220913\_14\_15\_BerkeleyMarina.dwg

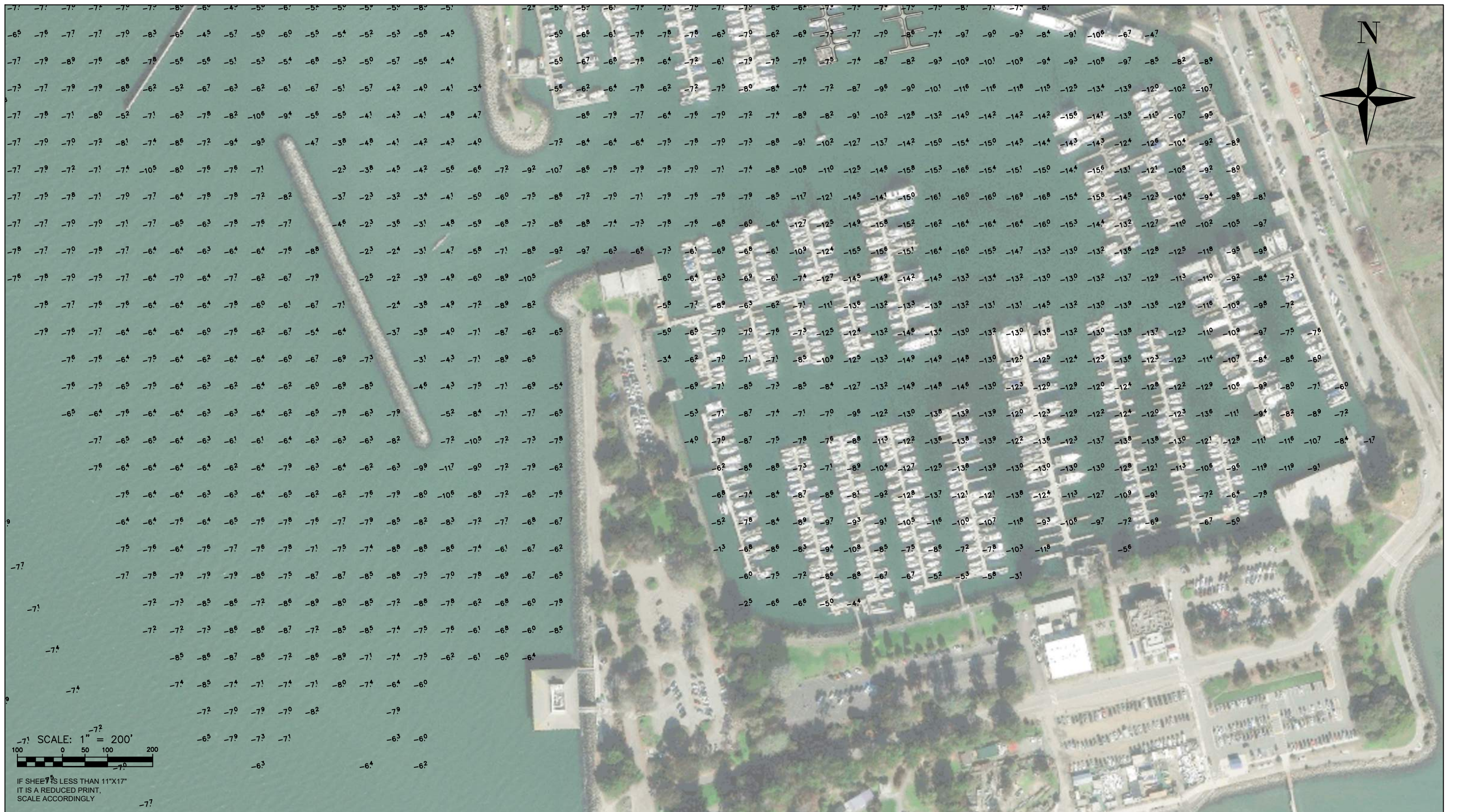
**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

**SOUNDINGS**

Reference  
Number:

**S2**





SURVEY  
STAMPS/SIGNATURES

**COWI**

COWI  
555 12TH STREET  
SUITE 1700  
OAKLAND, CA 94607  
510.839.8972  
COWI.COM

**eTrac**

eTrac Inc.  
637 LINDARO STREET  
SUITE 100  
SAN RAFAEL, CA 94901  
415.462.0421  
eTracInc.com

SURVEY DATE:  
SEPTEMBER 12-15, 2022

PLOT DATE:  
SEPTEMBER 28, 2022

DESIGNED BY: SR

CHECKED BY: DP

REVISION #

FILE NAME:  
COWI\_20220913\_14\_15\_BerkeleyMarina.dwg

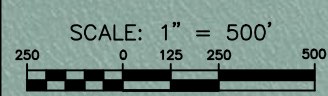
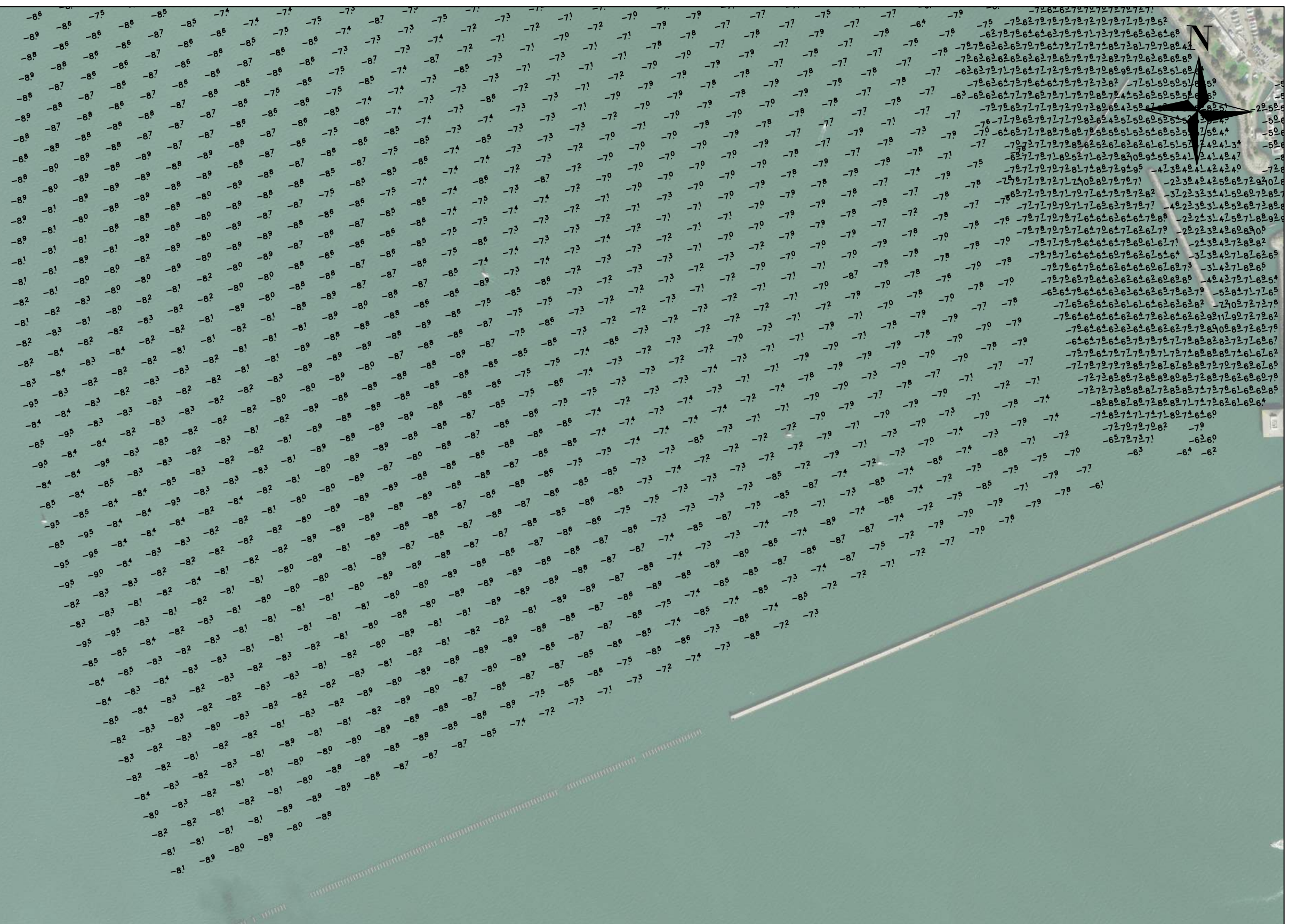
**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

**SOUNDINGS**

Reference  
Number:

**S3**





IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY

**COWI**

COWI  
555 12TH STREET  
SUITE 1700  
OAKLAND, CA 94607  
510.839.8972  
COWI.COM

**eTrac**

eTrac Inc.  
637 LINDARO STREET  
SUITE 100  
SAN RAFAEL, CA 94901  
415.462.0421  
eTracInc.com

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 28, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

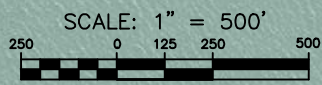
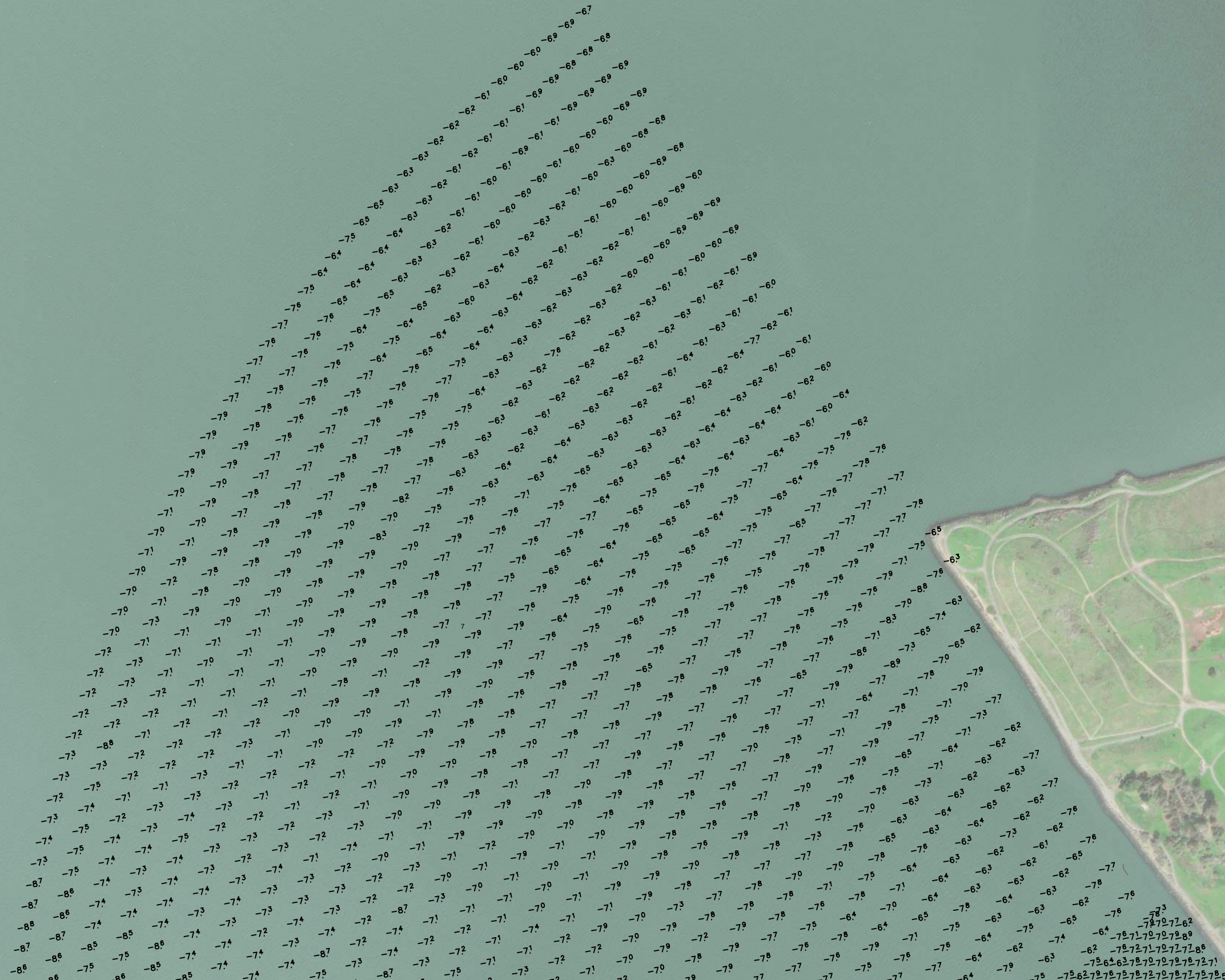
**BERKELEY MARINA  
HYDROGRAPHIC SURVEY**

---

**SOUNDINGS**

Reference  
Number:  
**S4**





IF SHEET IS LESS THAN 11"X17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY

	COWI 555 12TH STREET SUITE 1700 OAKLAND, CA 94607 510.839.8972 COWI.COM
--	--

	eTrac Inc. 637 LINDARO STREET SUITE 100 SAN RAFAEL, CA 94901 415.462.0421 eTracInc.com
--	---

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 28, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

BERKELEY MARINA HYDROGRAPHIC SURVEY
SOUNDINGS

Reference Number: <b>S5</b>
-----------------------------------





SCALE: 1" = 250'

IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY

SURVEY  
STAMPS/SIGNATURES



COWI  
555 12TH STREET  
SUITE 1700  
OAKLAND, CA 94607  
510.839.8972  
COWI.COM



eTrac Inc.  
637 LINDARO STREET  
SUITE 100  
SAN RAFAEL, CA 94901  
415.462.0421  
eTracInc.com

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 28, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

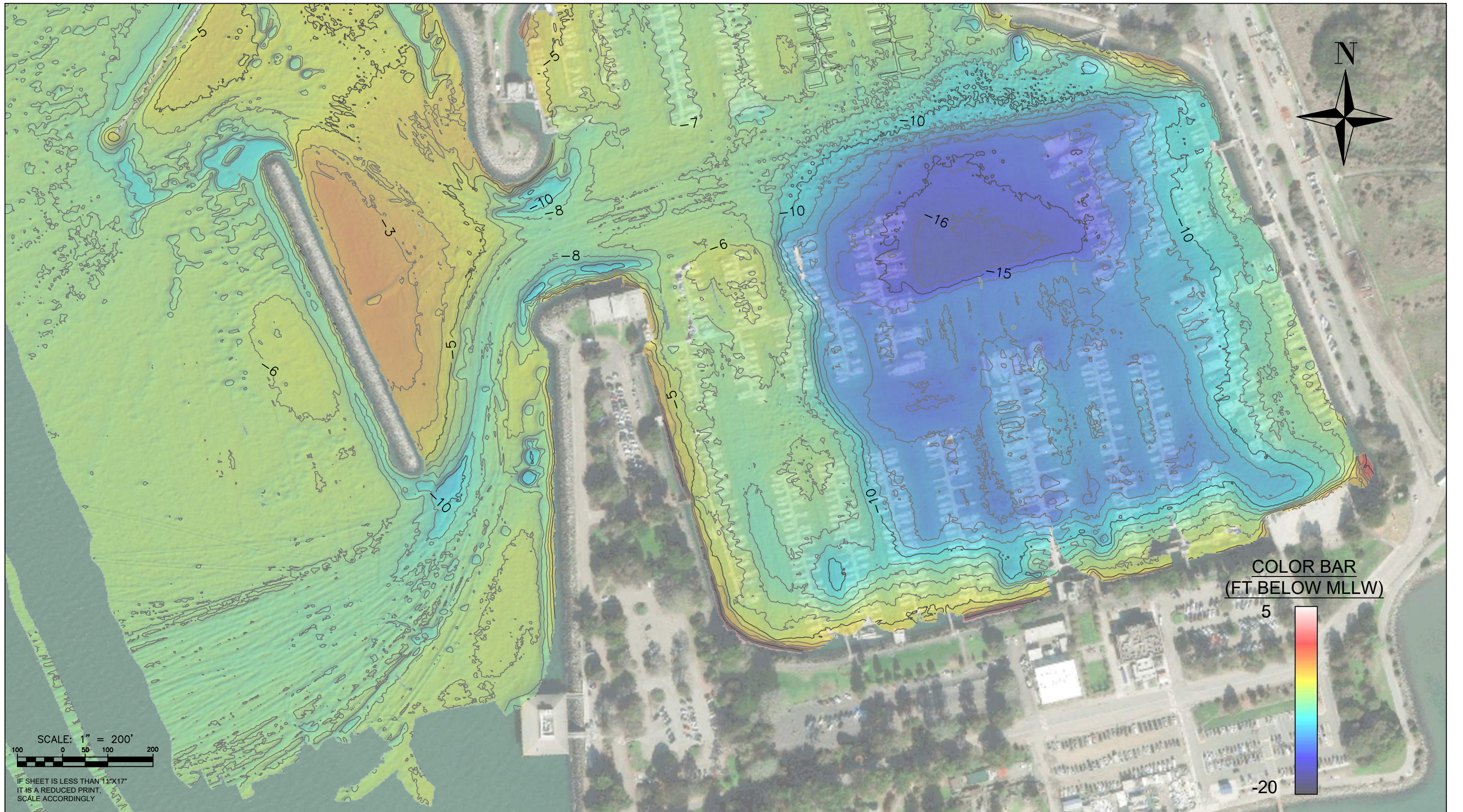
BERKELEY MARINA  
HYDROGRAPHIC SURVEY

---

SOUNDINGS

Reference  
Number:  
**S6**





SCALE: 1" = 200'  
 100 0 50 100 200

IF SHEET IS LESS THAN 11"x17"  
 IT IS A REDUCED PRINT.  
 SCALE ACCORDINGLY

COLOR BAR  
 (FT BELOW MLLW)



**COWI**  
 COWI  
 555 12TH STREET  
 SUITE 1700  
 OAKLAND, CA 94607  
 510.839.8972  
 COWI.COM

**eTrac**  
 eTrac Inc.  
 637 LINDARO STREET  
 SUITE 100  
 SAN RAFAEL, CA 94901  
 415.462.0421  
 eTracInc.com

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 28, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

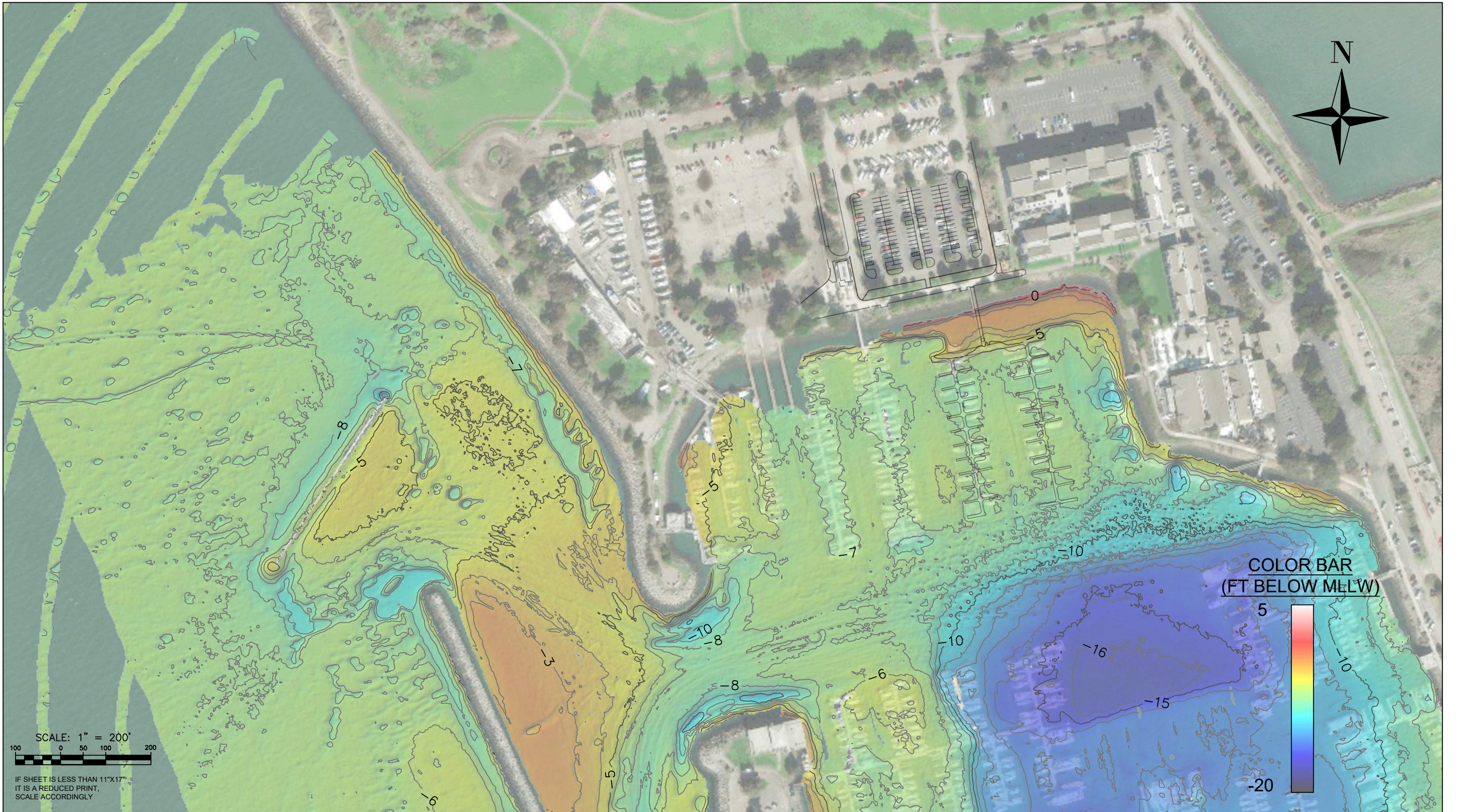
**BERKELEY MARINA  
 HYDROGRAPHIC SURVEY**

---

COLORED DEM

Reference  
 Number:  
**S7**





SCALE: 1" = 200'  
 100 0 50 100 200

IF SHEET IS LESS THAN 11"x17"  
 IT IS A REDUCED PRINT,  
 SCALE ACCORDINGLY



COWI  
 555 12TH STREET  
 SUITE 1700  
 OAKLAND, CA 94607  
 510.839.8972  
 COWI.COM



eTrac Inc.  
 637 LINDARO STREET  
 SUITE 100  
 SAN RAFAEL, CA 94901  
 415.462.0421  
 eTracInc.com

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 28, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

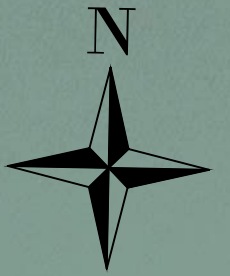
BERKELEY MARINA  
 HYDROGRAPHIC SURVEY

---

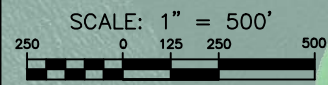
COLORED DEM

Reference  
 Number:  
**S8**





COLOR BAR  
(FT BELOW MLLW)



IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY

	COWI 555 12TH STREET SUITE 1700 OAKLAND, CA 94607 510.839.8972 COWI.COM
--	--

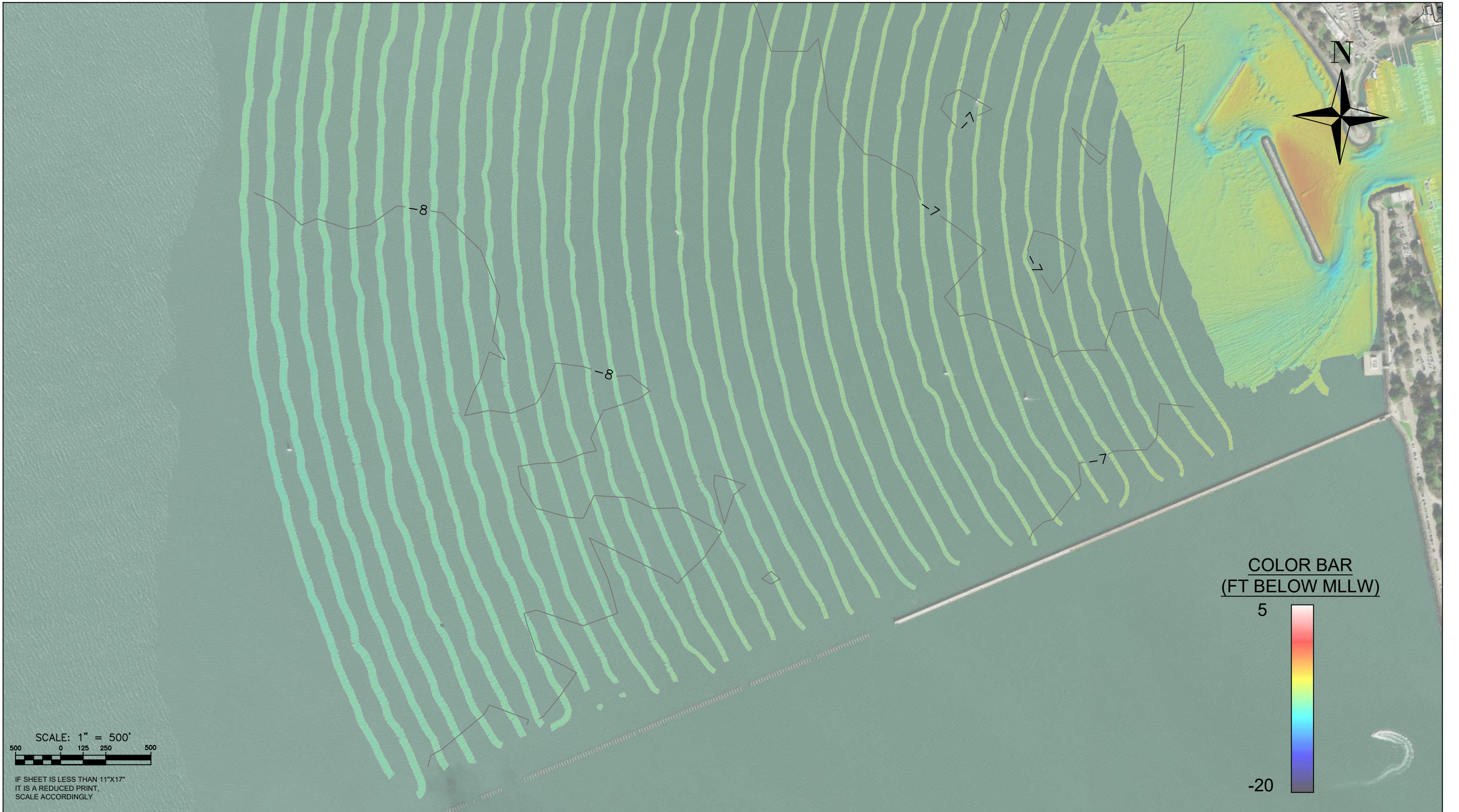
	eTrac Inc. 637 LINDARO STREET SUITE 100 SAN RAFAEL, CA 94901 415.462.0421 eTracInc.com
--	---

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 28, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

BERKELEY MARINA HYDROGRAPHIC SURVEY
COLORED DEM

Reference Number: <b>S9</b>
-----------------------------------

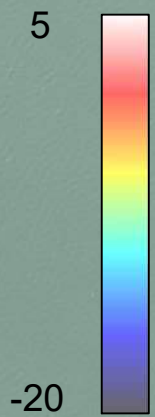




SCALE: 1" = 500'  
 500 0 125 250 500

IF SHEET IS LESS THAN 11"x17"  
 IT IS A REDUCED PRINT,  
 SCALE ACCORDINGLY

COLOR BAR  
 (FT BELOW MLLW)



**COWI**  
 COWI  
 555 12TH STREET  
 SUITE 1700  
 OAKLAND, CA 94607  
 510.839.8972  
 COWI.COM

**eTrac**  
 eTrac Inc.  
 637 LINDARO STREET  
 SUITE 100  
 SAN RAFAEL, CA 94901  
 415.462.0421  
 eTracInc.com

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 28, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

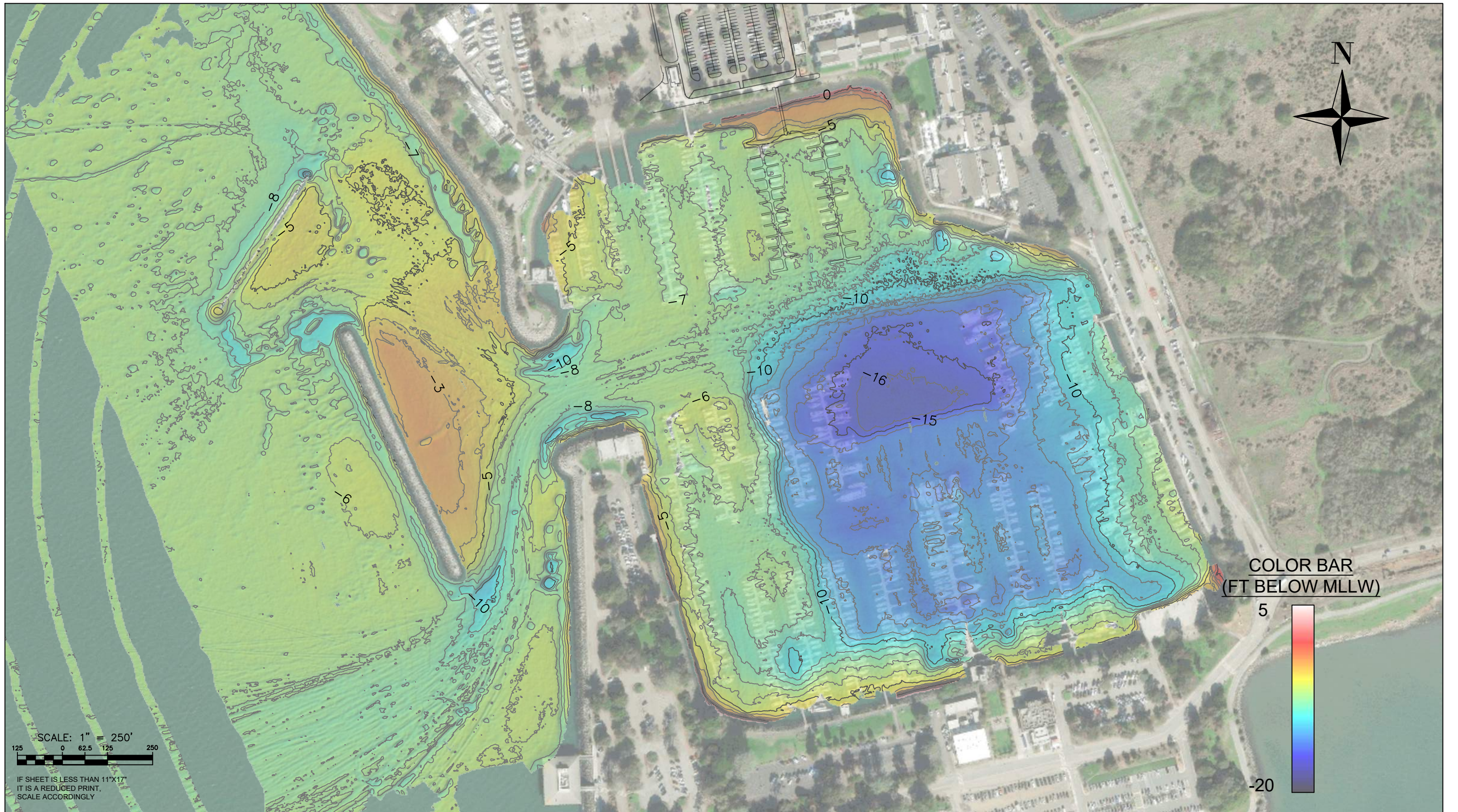
**BERKELEY MARINA  
 HYDROGRAPHIC SURVEY**

---

COLORED DEM

Reference  
 Number:  
**S10**





SCALE: 1" = 250'  
 125 0 62.5 125 250  
 IF SHEET IS LESS THAN 11"x17"  
 IT IS A REDUCED PRINT,  
 SCALE ACCORDINGLY

COLOR BAR  
 (FT BELOW MLLW)  
 5  
 -20

**COWI**  
 COWI  
 555 12TH STREET  
 SUITE 1700  
 OAKLAND, CA 94607  
 510.839.8972  
 COWI.COM

**eTrac**  
 eTrac Inc.  
 637 LINDARO STREET  
 SUITE 100  
 SAN RAFAEL, CA 94901  
 415.462.0421  
 eTracInc.com

SURVEY DATE: SEPTEMBER 12-15, 2022	PLOT DATE: SEPTEMBER 29, 2022
DESIGNED BY: SR	CHECKED BY: DP
REVISION #	
FILE NAME: COWI_20220913_14_15_BerkeleyMarina.dwg	

**BERKELEY MARINA  
 HYDROGRAPHIC SURVEY**

---

COLORED DEM

Reference  
 Number:  
**S11**